

# DEVELOPMENT OF APPROACHES TO EVALUATING THE INVESTMENT ATTRACTIVENESS OF THE COMPANY

**Prof. DSc. Alena Stupina**<sup>1,2,3</sup>

**Assoc. Prof. Roman Kuzmich**<sup>1</sup>

**Assoc. Prof. Margarita Karaseva**<sup>1,2</sup>

**Assoc. Prof. Irina Bagdasarian**<sup>1</sup>

**BS. Artem Stupin**<sup>2</sup>

<sup>1</sup> Siberian Federal University, **Russia**

<sup>2</sup> Reshetnev Siberian State University of Science and Technology, **Russia**

<sup>3</sup> Krasnoyarsk State Agrarian University, **Russia**

## ABSTRACT

In most cases, it is difficult for an investor to make a choice of a particular enterprise for the investment due to the uncertainty of business development in a constantly changing market economy. It is recommended to invest in companies with a good reputation, since such investments are less risky in conditions of uncertainty. First of all they try to invest in companies that meet the basic needs of customers such as trade, food production, and construction.

The main problem for an investor in decision making concerning money investment in a company is a correct evaluation of its investment attractiveness. The paper presents and approves two approaches to evaluating the investment attractiveness of a company to solve this problem. It allows an investor to make a choice in favor of those companies in which it is profitable to invest. A comparison of the results of the proposed approaches is given. A number of construction companies from Krasnoyarsk, a large industrial center in Central and Eastern Siberia, are used as a research object. The choice of the studied object is due to the rapid development of the construction industry in Krasnoyarsk.

Note also that these approaches to evaluating investment attractiveness can be used for smaller companies and other manufacturing industries.

**Keywords:** investment attractiveness, business value, financial transparency, construction companies.

## INTRODUCTION

The choice of investment object is a difficult task. For its successful solution, it is necessary to evaluate correctly the investment attractiveness of each considered companies. The papers of Russian and foreign scientists are devoted to the study of the investment attractiveness concepts and methods of its evaluation. But a standardized approach to evaluating investment attractiveness has not yet been developed. This is due to the fact that there are many factors affecting the investment attractiveness [1-3]. In

this paper, the authors propose two approaches to evaluating the investment attractiveness.

The first approach is based on the combination of business evaluations and financial transparency. It is noted that the business evaluation itself is a reflection of the investment attractiveness. The forecast of the company's position in the market in the coming years is based on the discounted cash flow method. The accuracy of the forecast depends on the information availability. The forecast is done on its basis by an investor. In turn, the information availability is determined by the value of financial transparency [4], [5]. Therefore, it is proposed to use the evaluation of the business in view of financial transparency as evaluation of the investment attractiveness.

The second approach is based on the coefficients of the ratio of the economic contribution of the company and the value of the business to the value of the assets. The essence of this approach is to calculate the specified coefficients for companies and develop a coordinate system based on the values of these coefficients. The coordinates of the companies in such a system helps the investor to make a choice in favor of certain objects for the investment.

## METHODS AND MATERIALS

It should be noted as part of the first approach to evaluating the investment attractiveness of a company, that there exists a direct relation between features and factors (business value and financial transparency) and the resulting attributes (investment attractiveness), i.e. the change direction of the attribute effectiveness will coincide with the direction of change of the feature and factors.

It is proposed to use a ranking scale taking into account the fact that the significance of the business value and financial transparency in absolute numbers are not comparable. It is built on the relation of identity and order. The subjects in this scale are ranked. A feature of this scale is rudeness since the difference between the subjects of the scale is not taken into account.

The following algorithm is proposed to obtain the ranks of companies in terms of investment attractiveness and the choice of the enterprise with the highest rank:

1. To rank enterprises according to each factor and indicator (business value and financial transparency) provided that the maximum value of the factor corresponds to the rank  $n$ , where  $n$  is a number of enterprises.
2. To set the weighting coefficients for each coefficient, taking into account their importance for evaluating the integral value of the rank of investment attractiveness. The collective study of Russian and foreign scientists was conducted on the subject of the impact of business value and financial transparency on the investment attractiveness of the company. As a part of this study, using various methods for determining the weights of these coefficients, it was found that a coefficient of business value has a weight of 0.67, and a coefficient of financial transparency is 0.33 [6]. On this basis, it is these values of the weighting coefficient for each factor that are used to evaluate the integral value of the rank of investment attractiveness.
3. To calculate the integral values of the ranks of investment attractiveness according to the following formula:

$$I = w_1 * V + w_2 * F_{transp} , \quad (1)$$

where  $w_1 = 0.67$  is a weighting factor for the value of the business;  $V$  is a rank value of the business value;  $w_2 = 0.33$  is a weighting coefficient for financial transparency;  $F_{\text{transp}}$  is a rank value of financial transparency.

4. To rank enterprises according to the integral value of the investment attractiveness rank in conditions that its maximum value corresponds to the rank  $n$ .

According to the algorithm given above, an enterprise with the  $n$ -th rank is the most attractive one for investors.

It is proposed to introduce the coefficients of the ratio of the company's economic contribution and business value to the value of assets within the framework of the second approach to evaluation of the investment attractiveness. And then, on the basis of these coefficients we will build a coordinate system with the corresponding companies on it. It will help an investor to make a choice regarding the investments in this or that company.

The information about the values of the proposed coefficients is necessary in concluding contracts with home and foreign investors, since the financial business strategy focused on increasing the value of the business and the social significance of the enterprise are important characteristics of the partner's reliability [7].

Currently, the company's management forms informational transparency and access to the information for potential investors, providing with the information about its financial and business activities. It could be a basis for further mutually beneficial cooperation.

The economic contribution of the company is one of the characteristics of financial transparency of the company from the perspective of the fiscal, tax and social and economic effect of its activities. The economic contribution of the company includes the following payments of an economic entity: insurance premiums, taxes, retained profit. The indicator is expressed in monetary units. Its mathematical interpretation is presented in the formula:

$$ECC = SIP + PT + PIT + PTr + RP, \quad (2)$$

where  $ECC$  is economic contribution of the company;  $SIP$  is social insurance premiums to all funds;  $PT$  is a profit tax;  $PIT$  is a personal income tax;  $PTr$  is a property tax;  $RP$  is retained profit.

It was proposed to introduce a coefficient of the company's economic contribution to the value of assets to evaluate the investment attractiveness of the company in the course of the study. This coefficient is calculated according to the formula:

$$K_{ECC/A} = \frac{ECC}{A},$$

where  $K_{ECC/A}$  is a coefficient of the economic contribution of the company (ECC) and assets (A) at the balance sheet date. This indicator characterizes a share of taxes and social benefits attributable to one ruble of the company's assets.

The coefficients of the ratio of the company's economic contribution and business value to the value of assets of the enterprise allows us to determine the effectiveness of the financial management, since the value of the business takes into account the profitability of activities and the use the own capital. This coefficient shows what

proportion of the value of the business value falls on each ruble of the assets of the enterprise. The coefficient is calculated according to the formula:

$$K_{V/A} = \frac{V}{A},$$

where  $K_{V/A}$  is a coefficient of business value and assets at the balance sheet date;  $V$  – is discounted cash business value;  $A$  is enterprise assets.

The logic of calculating this coefficient is as follows: if the value of the business exceeds the value of the assets, then the business can be characterized as effectively functioning.

As a result, it is proposed to bring into one system the coefficients of the ratio of the company's economic contribution and business value to the value of its assets. For example, in the two-dimensional coordinate system along the X-axis we will place the calculated value of the ratio of the economic contribution of the company to the value of assets ( $ECC / A$ ); Y-axis is a ratio of business value to the value of the company's balance sheet at the balance sheet date ( $V / A$ ).

High values of coefficients indicate the implementation of a strategy to maximize business value and reliability in relation to the fulfillment of fiscal obligations for a particular company. Consequently, these values corresponding to one number of companies will be greater than those ones that correspond to other companies in a two-dimensional coordinate system. It is recommended to invest such companies. It is also possible to establish the normative values of these coefficients, according to the individual preferences of a particular investor. Companies for which the values of the coefficients are more than normative are potentially attractive for this investor.

## RESULTS

The evaluation of the investment attractiveness is carried out in the paper using the example of medium-sized construction companies in Krasnoyarsk.

Earlier, the authors in [8] presented business value calculations based on the income approach using the modified CAPM – model developed by A. Damodaran [9] for 10 construction companies in Krasnoyarsk. They are Monolitholding, Restovratsiya, Montazh-stroi, Alfa, Mental-Plus, Sibiryak, Economgilstroi, Sm. City, Alexstroi, Grand. Also in [10] the evaluation of their financial transparency is given.

The evaluation of financial transparency is carried out at the end of 2018, since the latest financial report at the time of calculation (balance report and income statement) is available for 2018.

The values of the integral ranks of investment attractiveness are calculated for specified construction companies based on the algorithm given above for obtaining the evaluation of investment attractiveness (Table 1).

In column 3 (5) of Table 1, the company with the highest business value (financial transparency) in column 2 (4) receives the maximum rank 10.

In column 6 of Table 1, the integral ranks values of the investment attractiveness are calculated according to the formula (1).

Column 7 of Table 1 shows the rank of companies according to the integral value of the rank of investment attractiveness. Rank 10 corresponds to the company with the highest

integral value of investment attractiveness rank. Thus, the higher the rank of the company, the more attractive it is for an investor.

Table 1 – Determination of the rank of companies according to the investment attractiveness

Indexes Company	Business value of the company, for 2018, V, in thousands of rubles	Rank value of the business value	Financial transparency of companies for 2018, %	Rank value of financial transparency	Integral values of the ranks according to investment attractiveness	Rank of the company according to investment attractiveness
1	2	3	4	5	6	7
Monolitholding	153 877.9	2	93.5	10	4.64	3
Restavratsiya	233 368.5	5	83.5	9	6.32	6
Montazh-stroi	517 833.4	9	41.4	3	7.02	8
Alfa	353 045.3	6	39.2	2	4.68	5
Mental-plus	485 454.2	8	68.5	7	7.67	9
Sibiryak	7 937 899.2	10	54.2	5	8.35	10
Economgilstroj	193 579.3	4	49.2	4	4	2
Sm. City	164 385.6	3	80.6	8	4.65	4
Alexstroj	41 820.4	1	32.8	1	1	1
Grand	469 472.2	7	62.8	6	6.67	7

According to the first approach to the evaluation of the investment attractiveness (Table 1), four the most attractive companies for investors can be identified: Sibiryak, Mental Plus, Montazh-Stroi and Grand, since they have the highest ranks in investment attractiveness.

Also, in order to evaluate the investment attractiveness for these construction companies, the coefficients of the company's economic contribution and business value to assets are calculated. The coordinate system is built on this basis that helps an investor to make a choice regarding investments in this or that company.

On the basis of Formula 2, we calculate ECC (Table 2).

Table 2 – Calculation of the ECC for 2018

Indexes Company	SIP, in thousands of rubles	PIT, in thousands of rubles	PT, in thousands of rubles	PTr, in thousands of rubles	RP, in thousands of rubles	ECC, in thousands of rubles
1	2	3	4	5	6	7

Monolitholding	42 187.5	18 281.25	1 381	1 199	27 981.365	91 030.115
Restavratsiya	12 757.5	5 528.25	7 274	3 066	3 026	31 651.75
Montazh-stroi	6 750	2 925	568	10 733	110 218	131 194
Alfa	4 009.5	1 737.45	10 224	2 514	117 339	135 823.95
Mental-plus	20 250	87 750	13 984	593	78 797	122 399
Sibiryak	33 912	14 695.2	163 643	6 614	1 981 741	2 200 605.2
Economgilstroj	16 740	7 254	2 381	74	28 665	55 114
Sm. City	10 800	4 680	7 835	2 055	58 392	83 762
Alexstroj	3 172.5	1 374.75	1 940	23	205.219	6 715.469
Grand	5 818.5	2 521.35	5 953	12 189	42 324	68 805.85

The calculation of the coefficients of the ratio of the company's economic contribution and business value to the value of its assets is given in Table 3.

We will post in a two-dimensional coordinate system along the X-axis a calculated value of the ratio of the company's economic contribution to the value of assets ( $ECC / A$ ); Y-axis is a ratio of business value to the value of the company's balance sheet at the end of the reporting period ( $V / A$ ) (Figure 1).

Table 3 – Calculation of coefficients of the ratio of the company's economic contribution and business value to the value of its assets in 2018

Indexes Company	Business value of the company, V, in thousands of rubles	ECC, in thousands of rubles	A is assets of the company, in thousands of rubles	ECC/A	V/A
1	2	3	4	5	6
Monolitholding	153 877.9	91 030.115	809 060	0.11	0.19
Restavratsiya	233 368.5	31 651.75	992 084	0.03	0.24
Montazh-stroi	517 833.4	131 194	952 016	0.14	0.54
Alfa	353 045.3	135 823.95	2 314 237	0.06	0.15
Mental-plus	485 454.2	122 399	446 039	0.27	1.09
Sibiryak	7 937 899.2	2 200 605.2	13 788 159	0.16	0.58
Economgilstroj	193 579.3	55 114	729 744	0.08	0.27
Sm. City	164 385.6	83 762	687 885	0.12	0.24
Alexstroj	41 820.4	4 615.469	215 051	0.02	0.19
Grand	115 655.5	68 805.85	350 733	0.20	0.33

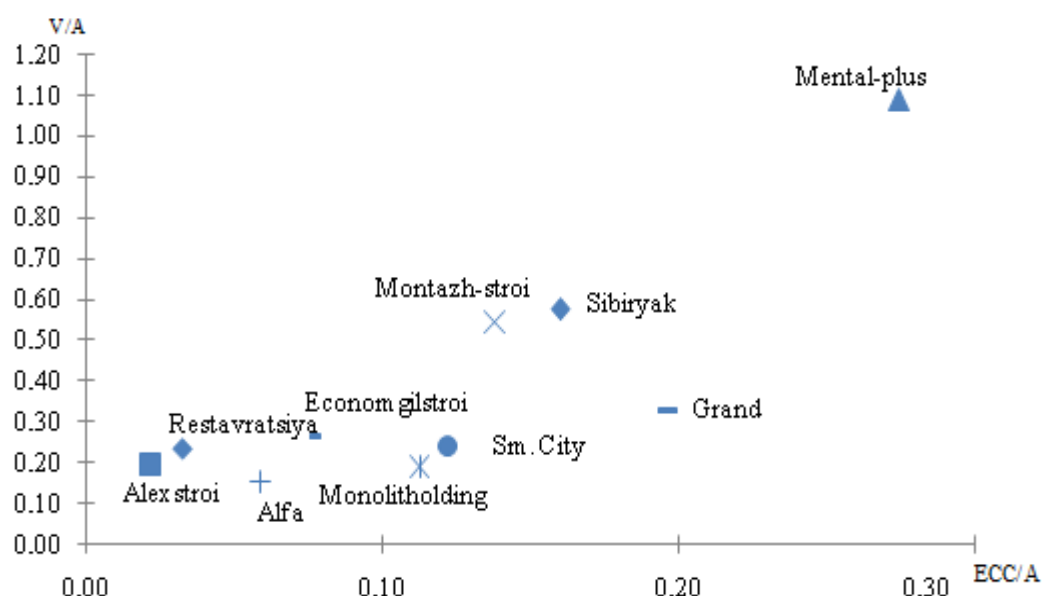


Figure 1 – Companies in the plane ( $ECC/A$ ;  $V/A$ )

Four most attractive companies for investors can be identified according to the second approach to evaluating the investment attractiveness (Figure 1): Mental Plus, Montazh-Stroi, Sibiryak and Grand as the coefficients of the ratio of the company's economic contribution and business value to the value of its assets are the highest.

It should be noted that both approaches determined a set consisting of four identical companies that are more attractive to investors. It undoubtedly increases the likelihood of making the right decision when investing in these companies.

## CONCLUSION

The paper considers two approaches to the evaluating the investment attractiveness. The first approach is based on combining evaluations of business and financial transparency. This unity is facilitated by the fact that the forecast of the company's position on the market in the coming years is carried out on the basis of the discounted cash method, and the accuracy of the forecast depends on the availability of information, which, in turn, is determined by the value of financial transparency. As a result, an algorithm was developed for the evaluation the value of the investment attractiveness of a company based on the well-known values of its financial transparency and business value. The result of the algorithm is the integral value of the rank of the company's investment attractiveness. According to the algorithm given above, the enterprise with the highest rank is the most attractive for investors.

The paper has been proposed to introduce coefficients of the ratio of the company's economic contribution and business value to the value of assets. The coordinate system with the corresponding companies on it is built as a second approach to evaluating the investment attractiveness of companies. It will help the investor to make a choice regarding investments in this or that company.

It should be noted that when using the second approach to assess the investment attractiveness of a company, it is possible to conduct an in-house analysis of the

company's management at the time of determining the fiscal and socio-economic effect of its activities, as well as assessing the strategic focus on increasing the business value, which will further attract potential investors. Also, the application of such an approach can significantly increase the reasonableness of the decisions made by the management of the company and the effectiveness of its financial activities in general.

## REFERENCES

- [1] Grishina I. A., Shakhnazarov A. V., Roizman I. E., Comprehensive assessment of investment attractiveness and investment activity of the Russian regions: methods for determining and analyzing interconnections, Investments in Russia, issue 4, pp 69-75, 2011 (in Russian).
- [2] Copeland T., Koller T., Cost of the companies: an estimation and management, The USA, 2008, 854 p.
- [3] Mikerin G.I., International standards for assessment, Russia, 2000, 252 p. (in Russian).
- [4] Igumnov V.M., The main directions of the study of transparency, International Accounting, vol. 41, pp 47-53, 2011 (in Russian).
- [5] Stepanov S.V., Pastukhova E. N., Glebkin S. L., Investigation of information transparency of Russian companies in 2010: Moderate growth of transparency at the expense of electricity sector companies, Joint research of Standard & Pool's and Center for Economic and Financial Research and Development, vol. 5, pp 1-28, 2010 (in Russian).
- [6] Rostislavov R.A., Methods for evaluating the investment attractiveness of an enterprise, News of Tula State University. Economic and legal sciences, vol. 2/issue 2, pp 38-46, 2009 (in Russian).
- [7] Porotova O.V., The development of business valuation methods in financial management tools, Russia, 2012, 138 p. (in Russian).
- [8] Kuzmich R.I., Almabekova O. A., Antosik E. A., Vasilyeva Z. A., Income approach to business valuation: Russian perspective. Proceeding 8<sup>th</sup> Annual Global Business Conference, pp 167-176, 2017.
- [9] Damodaran A., Investment valuation. Tools and techniques for assessing any assets, The USA, 2017, 1316 p.
- [10] Kuzmich R., Grishchenko N., Yakimova E., Selection of criteria and development of the financial transparency evaluation algorithm, Proceeding 5<sup>th</sup> International Multidisciplinary Scientific Conference on Social Sciences and Arts, pp 309-316, 2018.